042390.P11058

ABSTRACT

One aspect of the invention provides a novel scheme to preserve the failure state of a memory location. According to one embodiment, the data is read from a memory location in a read-destructive memory device. If the data is found to be valid (uncorrupted) it is written back to the memory location from where it was read in order to preserve it. If the data is found to be invalid (corrupted) then a failure codeword is written in the memory location to indicate a failure of the memory location. The failure codeword may be preselected or dynamically calculated so that it has a mathematical distance greater than all correctable data patterns.

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